

ClaimsWhat is claimed is:

- 1 1. In a computer controlled user interactive display
2 system, a display interface implementation for enabling
3 an interactive user to select specific items on a display
4 screen with crowded selectable items comprising:
5 user controlled means for moving an on-screen
6 pointer to approach said selectable items;
7 means for setting a predetermined minimum clearance
8 factor required for user selection of an item by said
9 pointer;
10 means for determining whether a selectable item
11 being approached by said pointer has said minimum
12 clearance factor; and
13 means responsive to a determination that said
14 approached item does not have said minimum clearance
15 factor for reducing the size of said pointer.
- 1 2. The display system of claim 1 wherein said items are
2 icons.
- 1 3. The display system of claim 2 wherein said reduced
2 size pointer has a reduced minimum clearance factor.

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- 1 4. The display system of claim 3 wherein said minimum
2 clearance factor is defined by:
3 Minimum Clearance = $d + s$ wherein:
4 d is the widest visible dimension of the approached
5 icon, and
6 s is the space between the approached icon and the
7 closest adjacent icon in a continuation of the d
8 dimension line.

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- 1 5. In a computer controlled user interactive display
2 system, a display interface implementation for enabling
3 an interactive user to select specific icons on a display
4 screen with crowded selectable icons comprising:
5 user controlled means for moving an on-screen
6 pointer to approach said selectable icons;
7 means for setting a predetermined minimum clearance
8 distance required for user selection of an icon by said
9 pointer;
10 means for determining whether a selectable icon
11 being approached by said pointer is within said minimum
12 clearance distance from said pointer;
13 means for determining whether said approached icon
14 has said minimum clearance distance from its adjacent
15 icons; and
16 means responsive to a determination that said
17 approached icon does not have said minimum clearance
18 distance from adjacent icons for automatically reducing
19 the size of said pointer.
- 1 6. The display system of claim 5 wherein said reduced
2 size pointer has a reduced minimum clearance distance
3 whereby said approached icon does have said minimum
4 clearance distance from adjacent icons.

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1 7. A method for enabling an interactive user to select
2 specific items on a display screen with crowded
3 selectable items in computer controlled user interactive
4 display systems comprising:
5 moving an on-screen pointer to approach said
6 selectable items;
7 setting a predetermined minimum clearance factor
8 required for user selection of an item by said pointer;
9 determining whether a selectable item being
10 approached by said pointer has said minimum clearance
11 factor; and
12 reducing the size of said pointer responsive to a
13 determination that said approached item does not have
14 said minimum clearance factor.

1 8. The method of claim 7 wherein said items are icons.

1 9. The method of claim 8 wherein said reduced size
2 pointer has a reduced minimum clearance factor.

1 10. The method of claim 9 wherein said minimum clearance
2 factor is defined by:

3 Minimum Clearance = $d + s$ wherein:

4 d is the widest visible dimension of the approached
5 icon, and

6 s is the space between the approached icon and the
7 closest adjacent icon in a continuation of the d
8 dimension line.

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- 1 11. A method enabling an interactive user to select
2 specific selectable icons on a display screen with
3 crowded selectable icons in computer controlled user
4 interactive display systems comprising:
5 moving an on-screen pointer to approach said
6 selectable icons;
7 setting a predetermined minimum clearance distance
8 required for user selection of an icon by said pointer;
9 determining whether a selectable icon being
10 approached by said pointer is within said minimum
11 clearance distance from said pointer;
12 determining whether said approached icon has said
13 minimum clearance distance from its adjacent icons; and
14 automatically reducing the size of said pointer
15 responsive to a determination that said approached icon
16 does not have said minimum clearance distance from
17 adjacent icons.
- 1 12. The method of claim 5 wherein said reduced size
2 pointer has a reduced minimum clearance distance whereby
3 said approached icon does have said minimum clearance
4 distance from adjacent icons.

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1 13. A computer program having program code included on a
2 computer readable medium for enabling an interactive user
3 to select specific items on a display screen with crowded
4 selectable items in a computer controlled user
5 interactive display system comprising:

6 user controlled means for moving an on-screen
7 pointer to approach said selectable items;
8 means for setting a predetermined minimum clearance
9 factor required for user selection of an item by said
10 pointer;

11 means for determining whether a selectable item
12 being approached by said pointer has said minimum
13 clearance factor; and

14 means responsive to a determination that said
15 approached item does not have said minimum clearance
16 factor for reducing the size of said pointer.

1 14. The computer program of claim 13 wherein said items
2 are icons.

1 15. The computer program of claim 14 wherein said
2 reduced size pointer has a reduced minimum clearance
3 factor.

1 16. The computer program of claim 15 wherein said
2 minimum clearance factor is defined by:

3 Minimum Clearance = $d + s$ wherein:

4 d is the widest visible dimension of the approached
5 icon, and

6 s is the space between the approached icon and the
7 closest adjacent icon in a continuation of the d
8 dimension line.

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1 17. A computer program having program code included on
2 a computer readable medium for enabling an interactive
3 user to select specific icons on a display screen with
4 crowded selectable icons in a computer controlled user
5 interactive display systems comprising:

6 user controlled means for moving an on-screen
7 pointer to approach said selectable icons;
8 means for setting a predetermined minimum clearance
9 distance required for user selection of an icon by said
10 pointer;

11 means for determining whether a selectable icon
12 being approached by said pointer is within said minimum
13 clearance distance from said pointer;

14 means for determining whether said approached icon
15 has said minimum clearance distance from its adjacent
16 icons; and

17 means responsive to a determination that said
18 approached icon does not have said minimum clearance
19 distance from adjacent icons for automatically reducing
20 the size of said pointer.

1 18.⁶ The computer program of claim 17 wherein said
2 reduced size pointer has a reduced minimum clearance
3 distance whereby said approached icon does have said
4 minimum clearance distance from adjacent icons.

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- 1 19. In a computer controlled user interactive display
2 system, a display interface implementation for directing
3 a user's attention to specific selectable items on a
4 display screen with crowded selectable items comprising;
5 user controlled means for moving an on-screen
6 pointer to approach a cluster of said selectable items;
7 and
8 means for determining whether the items in said
9 cluster have sufficient clearance for said pointer to
10 select separate items in said cluster; and
11 means responsive to a determination of insufficient
12 clearance for sequentially enlarging the dimensions of
13 each of the items in said cluster relative to the pointer
14 size whereby there is sufficient clearance.
- 1 20. The computer controlled user interactive display
2 system of claim 19 wherein each item is activated for
3 selection when said dimensions are enlarged.

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1 21. A method for directing a user's attention to
2 specific selectable items on a display screen with
3 crowded selectable items in computer controlled user
4 interactive display systems comprising:
5 moving an on-screen pointer to approach a cluster of
6 said selectable items;
7 determining whether the items in said cluster have
8 sufficient clearance for said pointer to select separate
9 items in said cluster; and
10 responsive to a determination of insufficient
11 clearance, sequentially enlarging the dimensions of each
12 of the items in said cluster relative to the pointer size
13 whereby there is sufficient clearance.

1 22. The method of claim 21 wherein each item is
2 activated for selection when said dimensions are
3 enlarged.

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